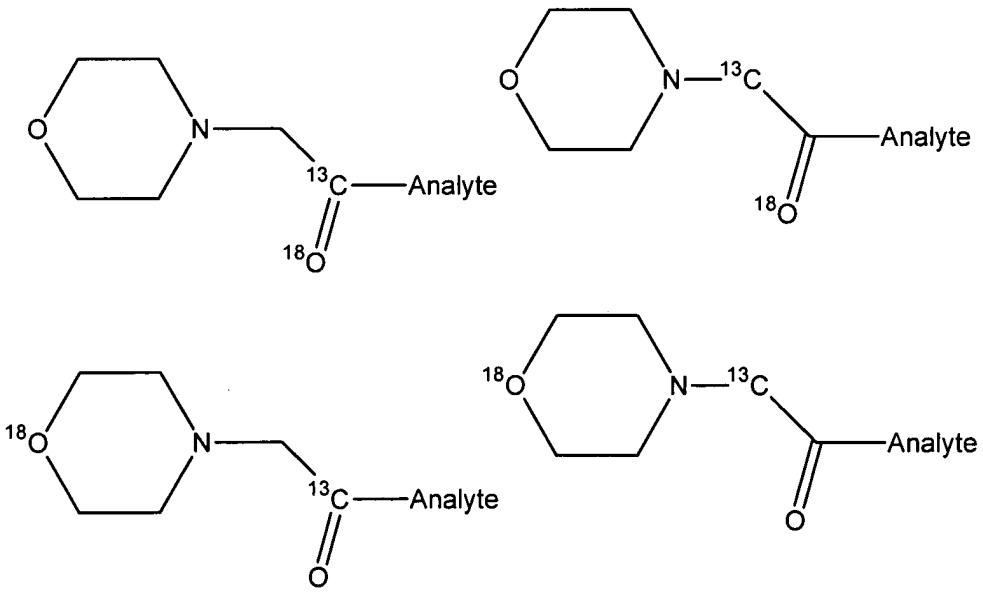
IN THE CLAIMS

1. – 41. (cancelled)

42. (currently amended) ~~The method of claim 40, wherein the sample mixture comprises one or more isobarically labeled analytes of the formula:~~

A method comprising:

a) reacting two or more samples, each sample comprising one or more reactive analytes, with a different labeling reagent of a set of labeling reagents to thereby produce two or more differentially labeled samples each comprising one or more isobarically labeled analytes wherein the sample mixture comprises one or more isobarically labeled analytes of the formula:

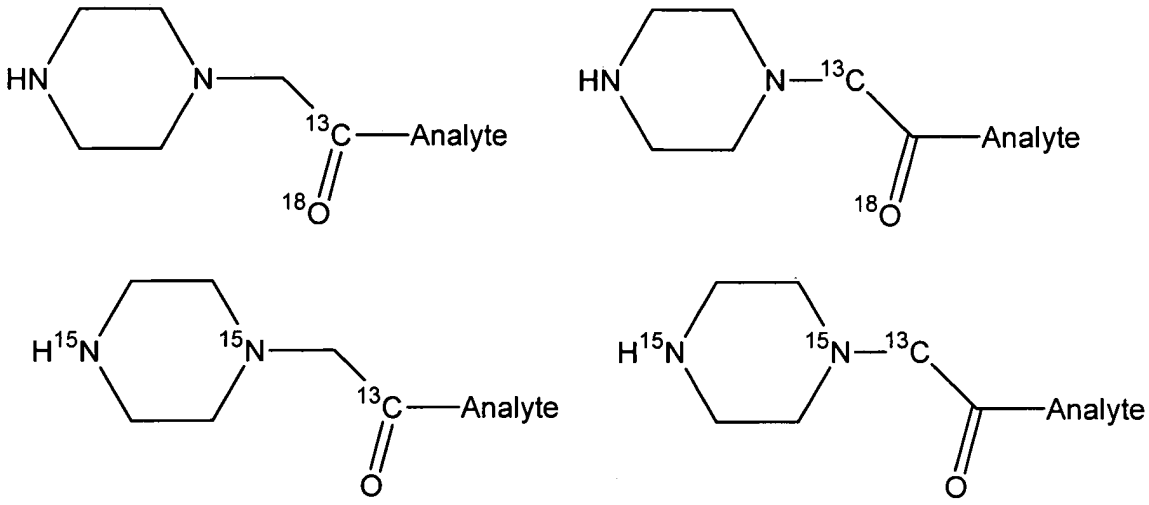


43. (currently amended) ~~The method of claim 40, wherein the sample mixture comprises one or more isobarically labeled analytes of the formula:~~

A method comprising:

a) reacting two or more samples, each sample comprising one or more reactive analytes, with a different labeling reagent of a set of labeling reagents to thereby

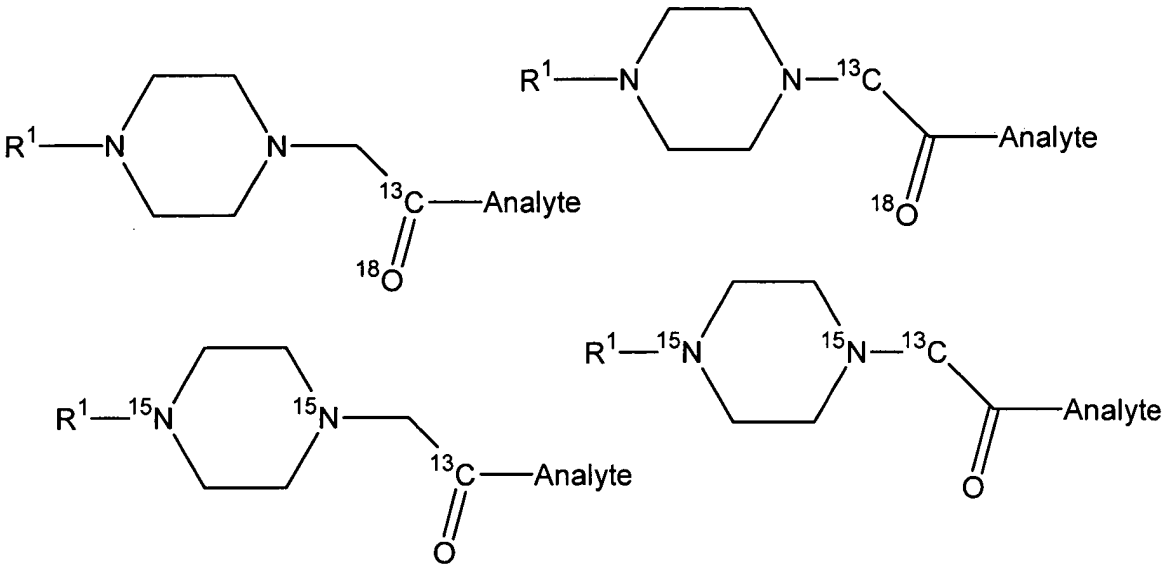
produce two or more differentially labeled samples each comprising one or more isobarically labeled analytes wherein the sample mixture comprises one or more isobarically labeled analytes of the formula:



44. (currently amended) ~~The method of claim 40, wherein the sample mixture comprises one or more isobarically labeled analytes of the formula:~~

A method comprising:

a) reacting two or more samples, each sample comprising one or more reactive analytes, with a different labeling reagent of a set of labeling reagents to thereby produce two or more differentially labeled samples each comprising one or more isobarically labeled analytes wherein the sample mixture comprises one or more isobarically labeled analytes of the formula:

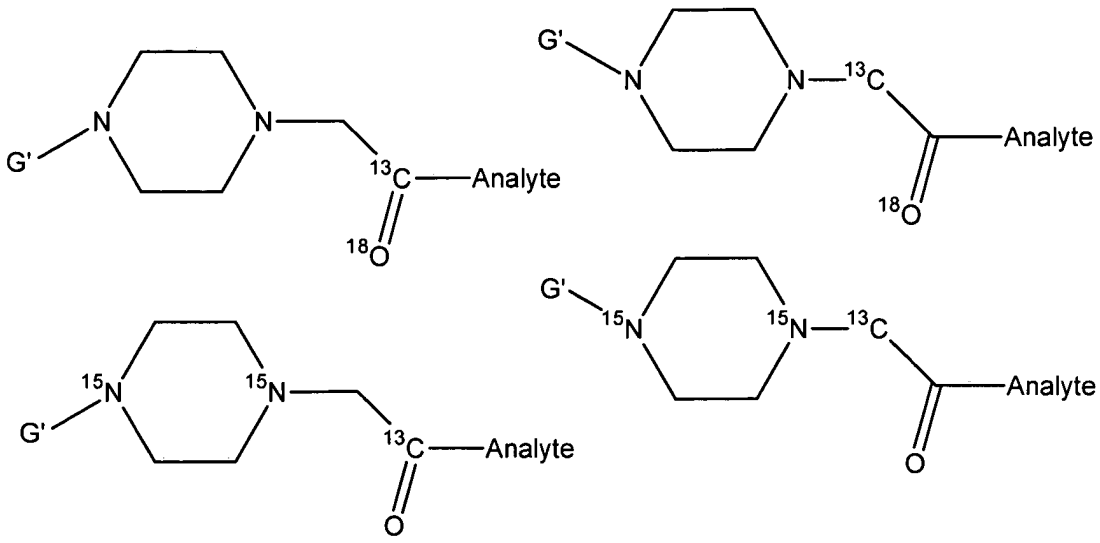


wherein each R^1 is the same or different and is an alkyl group comprising one to eight carbon atoms which may optionally contain a heteroatom or a substituted or unsubstituted aryl group wherein the carbon atoms of the alkyl and aryl groups independently comprise linked hydrogen, deuterium and/or fluorine atoms.

45. (currently amended) ~~The method of claim 40, wherein the sample mixture comprises one or more isobarically labeled analytes of the formula:~~

A method comprising:

a) reacting two or more samples, each sample comprising one or more reactive analytes, with a different labeling reagent of a set of labeling reagents to thereby produce two or more differentially labeled samples each comprising one or more isobarically labeled analytes wherein the sample mixture comprises one or more isobarically labeled analytes of the formula:



wherein:

a) G' is an amino alkyl, hydroxy alkyl or thio alkyl group comprising one to eight carbon atoms which may optionally contain a heteroatom or a substituted or unsubstituted aryl group wherein the carbon atoms of the alkyl and aryl groups independently comprise linked hydrogen, deuterium and/or fluorine atoms;

b) each carbon of the heterocyclic ring has the formula CJ_2, wherein each J is the same or different and is selected from the group consisting of: H, deuterium (D), R^1, OR^1, SR^1, NHR^1, $N(R^1)_2$, fluorine, chlorine, bromine and iodine; and

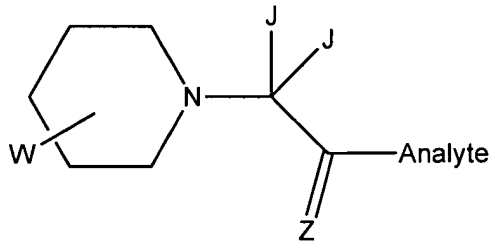
c) each R^1 is the same or different and is an alkyl group comprising one to eight carbon atoms which may optionally contain a heteroatom or a substituted or unsubstituted aryl group wherein the carbon atoms of the alkyl and aryl groups independently comprise linked hydrogen, deuterium and/or fluorine atoms.

46. – 103. (cancelled)

104. (currently amended) ~~The mixture of claim 103, wherein the at least two labeled analytes each comprise~~ A mixture comprising at least two labeled analytes, wherein each of the two labeled analytes originates from a different sample combined to

form the mixture and each comprise an isobaric label that is a 5, 6 or 7 membered heterocyclic ring comprising a ring nitrogen atom that is N-alkylated with a substituted or unsubstituted acetic acid moiety to which the analyte is linked through the carbonyl carbon of the N-alkyl acetic acid moiety, wherein each different label comprises one or more heavy atom isotopes.

105. (currently amended) The mixture of claim 104, wherein each of the at least two ~~isobarically~~ labeled analytes in the mixture comprise the formula:



wherein;

a) Z is O, S, NH or NR^1;

b) each J is the same or different and is H, deuterium (D), R^1, OR^1, SR^1, NHR^1, $N(R^1)_2$, fluorine, chlorine, bromine or iodine;

c) W is an atom or group that is located ortho, meta or para to the ring nitrogen and is NH, N-R^1, N-R^2, P-R^1, P-R^2, O or S;

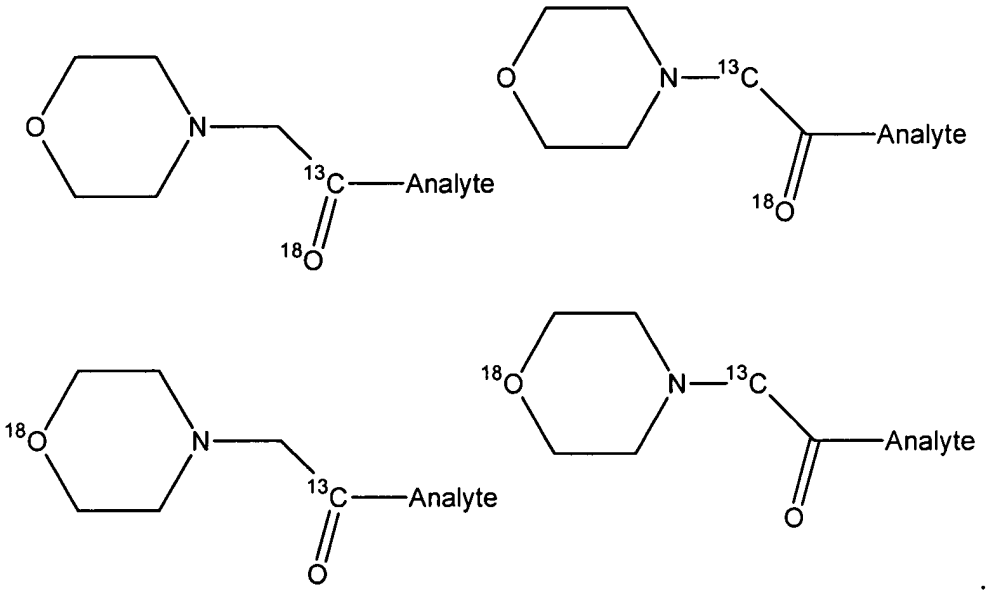
d) each carbon of the heterocyclic ring has the formula CJ_2;

e) each R^1 is the same or different and is an alkyl group comprising one to eight carbon atoms which may optionally contain a heteroatom or a substituted or unsubstituted aryl group wherein the carbon atoms of the alkyl and aryl groups independently comprise linked hydrogen, deuterium and/or fluorine atoms; and

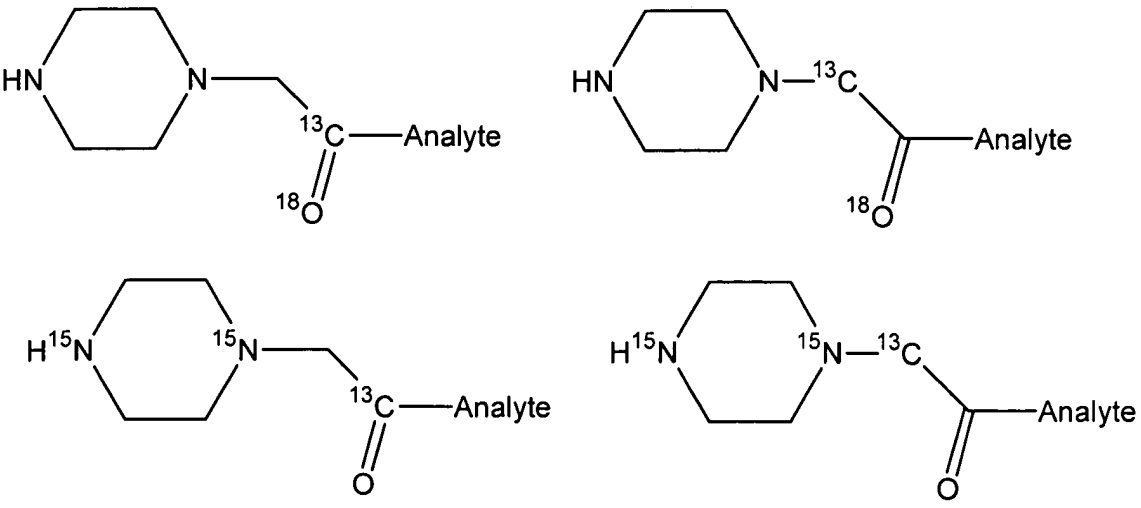
f) R^2 is an amino alkyl, hydroxy alkyl, thio alkyl group or a cleavable linker that cleavably links the reagent to a solid support wherein the amino alkyl, hydroxy alkyl or thio alkyl group comprises one to eight carbon atoms, which may optionally contain a heteroatom or a substituted or unsubstituted aryl

group, and wherein the carbon atoms of the alkyl and aryl groups independently comprise linked hydrogen, deuterium and/or fluorine atoms.

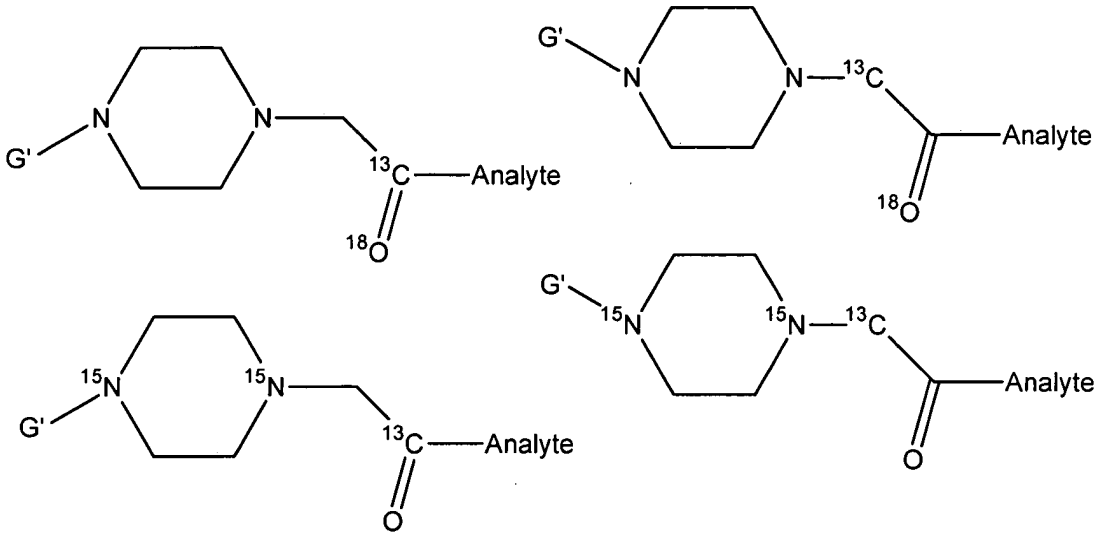
106. (currently amended) The mixture of claim ~~105~~ 104, wherein the mixture comprises one or more ~~isobarically~~ labeled analytes of the formula:



107. (currently amended) The mixture of claim ~~105~~ 104, wherein the mixture comprises one or more ~~isobarically~~ labeled analytes of the formula:



108. (currently amended) The mixture of claim ~~105~~ 104, wherein the mixture comprises one or more ~~isobarically~~ labeled analytes of the formula:



wherein:

a) G' is an amino alkyl, hydroxy alkyl or thio alkyl group comprising one to eight carbon atoms which may optionally contain a heteroatom or a substituted or unsubstituted aryl group wherein the carbon atoms of the alkyl and aryl groups independently comprise linked hydrogen, deuterium and/or fluorine atoms;

b) each carbon of the heterocyclic ring has the formula CJ_2, wherein each J is the same or different and is selected from the group consisting of: H, deuterium (D), R^1, OR^1, SR^1, NHR^1, $N(R^1)_2$, fluorine, chlorine, bromine and iodine; and

c) each R^1 is the same or different and is an alkyl group comprising one to eight carbon atoms which may optionally contain a heteroatom or a substituted or unsubstituted aryl group wherein the carbon atoms of the alkyl and aryl groups independently comprise linked hydrogen, deuterium and/or fluorine atoms.

109 – 110. (cancelled)